

## REMARKS/ARGUMENT

The applicants respond to the Office Action of August 13, 2002, in accordance with 37 C.F.R. § 1.111.

Claims 1 through 6 and 8 through 14 are pending in the application. Claims 1 through 6 and 8 through 14 are deleted, and claims 15 through 24 are added.

A separate request for an extension of time for two months accompanies this response. The request for an extension of time authorizes charging the Official Fee of \$205 to Deposit Account No. 15-0700.

### 1. Election/Restriction Requirement

The Examiner makes final the restriction requirement. The applicants acknowledge this status of the rejection but continue to traverse the rejection. The applicants request that the Examiner consider the following.

The Examiner states that Giblin-Davis et al. anticipate former claim 1. The applicants do not agree with this position because Giblin-Davis et al. disclose the use of mixed baits consisting of (i) sugar cane, (ii) ethyl acetate, and (iii) metalure in separated recipients. However, the insect attracting composition previously claimed by the applicants included ethyl acetate and ethanol (species A), stabilized, fermented, sugar cane (Species B), and phenol and acetoin (species C) and a pheromone, in the same recipient, as a proper mixture of the specified components. Therefore, Giblin-Davis et al. do not specifically teach (i) using ethanol, phenol, acetoin or (ii) stabilizing the sugar cane with a preservative agent such as ascorbic or citric acid. Consequently, the composition previously claimed is not anticipated by Giblin-Davis et al.

The applicants address the Examiner's allegation that the unexpected results obtained by using the composition of the claimed invention are not found to have support in the specification by noting the following. Table 1 on page 13 of the specification demonstrates that the total capture of insects when using an insect attracting composition consisting of ethyl acetate, sugar cane (i.e., components A and B) and pheromone is lower than the total capture of insects when using an insect attracting composition consisting of ethanol, ethyl acetate, stabilized sugar cane, phenol, acetoin (i.e., components A, B, and C) and a pheromone.

The applicants also note a clerical error in Table 1 on page 13 that the amounts of "18" and "20" should be replaced by "183" and "201," respectively. Table 1 is amended by this response. The basis for this correction is found, for example, in Table 1 on page 12 of the corresponding PCT patent application, which was published under publication number WO99/12425 A1.

Composition identified as (b) is said Table 1, consisting of ethyl acetate, ethanol, stabilized sugar cane (i.e., components A and B) and pheromone may be considered as a composition taught by Gablin-Davis et al., whereas the composition identified as (c) in said Table 1, consisting of ethyl acetate, ethanol, stabilized sugar cane, phenol, acetoin (i.e., components A, B, and C) and pheromone is a typical composition of the invention.

Table 1 demonstrates that the total capture of insects trapped in all the traps containing the same test substance drastically increases when the insect attracting composition includes component (C). In fact:

- (i) in March 1997:
  - the total capture of insects using composition (c) (including components A, B, and C), i.e., 201, is higher (about 1.12 folds) than the total capture of insects using composition (b), i.e., 183 (including only components A and B); and
- (ii) in April 1997:
  - the total capture of insects using composition (c) (including components A, B, and C), i.e., 405, is higher (about 1.30 folds) than the total capture of insects using composition (b) (including only components A and B).

These increases are still higher when composition (d) (including components A, B, and C) is used (namely 1.30 and 1.35, respectively).

These results show, among other things, the synergistic effect achieved by including component C into an insect attracting composition. The applicants request that the Examiner consider these facts and withdraw the restriction requirement.

**2. Priority**

The applicants acknowledge their claim of priority to Spanish application number P9707890, which was filed on September 5, 1997. A supplemental inventors' declaration will be submitted.

**3. Specification**

The Examiner notes that the application does not contain an Abstract of the Disclosure. A abstract is submitted with this response for insertion as the last page of the specification. This objection is moot.

**4. Rejection of Claims 1 through 6, 8 through 10, and 12 through 14 under 35 U.S.C. § 112**

The Examiner rejects claims 1 through 6, 8 through 10, and 12 through 14 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Examiner makes specific objections to claims 1 through 3, 8, 10, 12, and 13. The applicants adopt the Examiner's suggestions as follows.

The term "vegetal portions" was intended to mean "vegetable parts." The expression "vegetal matter comprising vegetal portion . . ." has been replaced with the expression "vegetable material obtained from . . ."

The references to components (a1) and (a2) in the new claims have been duly amended to read (A) and (B) respectively.

The amount of component C has been amended in new claim 6 to exclude the possibility of being 0% by using the expression "up to 20%."

Former claim 10 has been deleted.

The term "pests of insects" mentioned in former claims 12 and 13, as used with the invention, was intended to mean "plagues of insects which cause damages in plants."

The term "the insect of pest . . ." mentioned in line 4 of former claims 12 and 13, as read within the context of these claims means "the insect whose pest is to be controlled."

The expression "to "pertain" to the *Coleoptera* order" means that "the insect is a member of the *Coleoptera* order or a *Coleoptera* insect."

The phrase "loaded with the pheromone" mentioned in former claim 13 has been deleted in new claim 10.

**5. Rejection of Claims 1 through 6, 8 through 10, and 12 through 14 under 35 U.S.C. § 103**

The Examiner rejects claims 1 through 6, 8 through 10, and 12 through 14 under 35 U.S.C. § 103(a) as unpatentable over articles by Jaffe et al. in view of Umano et al. and Nagnan et al. for the reasons mentioned in paragraph 13 (pages 5-7 of the Office Action). The applicants traverse this rejection and request reconsideration.

**A. New Claims 15 through 24**

The applicants submit new claims 15 through 24 for the Examiner's consideration.

New independent claim 15 refers to an insect attracting composition. The composition is useful for controlling insects in plants, wherein the insects are selected from the *Coleoptera* order and the plants are selected from the family *Palmaceae*, sugar cane, banana, tree and agaves. The composition comprises:

- (i) a mixture comprising the following components:
  - (A) an organic compound selected from the group formed by methanol, ethanol, ethyl acetate, and mixtures thereof;
  - (B) a vegetable material obtained from a plant, the plant being selected from plants of the family *Palmaceae*, sugar cane, banana tree and agaves, the vegetable material being ground, fermented and stabilized with a preserving agent; and
  - (C) an organic compound selected from the group formed by isobutyl acetate, acetoin, phenol, guaiacol, menthol, 2-phenylethanol and mixtures thereof; and
- (ii) a pheromone, the pheromone comprising a pheromone which is appropriate for the insects to be controlled.

In a desirable embodiment of the invention, the composition includes ethanol and ethyl acetate (species A), sugar cane stabilized with ascorbic acid (species B), phenol and acetoin (species C) and a pheromone.

## **B. Novelty**

The insect attracting composition of claim 15 differs from the composition taught by Jaffe et al. in that the composition of Jaffe et al. does not include phenol or acetoin in the bait composition. Additionally, the bait composition has no preserving agent. Umano et al. and Nagnan et al. do not teach any specific bait composition. Therefore, the insect attracting composition of claim 15 can be distinguished over the bait composition disclosed by Jaffe et al., and is novel in view of the Jaffe et al. article.

New dependent claims 16 through 23 are also novel over the cited prior art. These claims are novel in part because of their dependency upon claim 15.

New claim 24 recites a method for controlling insects of the *Coleoptera* order in plants of the family *Palmaceae*, sugar cane, banana tree and agaves. This method includes applying the insect attracting composition to a plantation of the plants to be protected. This method uses the novel composition of claim 15.

## **C. Non-obviousness**

New claims 15 through 24 are non-obvious over the Examiner's cited combination of the articles to Jaffe et al. in view of Umano et al. and Nagnan et al. The cited art, apparently, teaches a combination of ethanol, ethyl acetate, acetoin, phenol, sugar cane, and a pheromone. However, the combination of art does not teach stabilizing the sugar cane with a preserving agent such as ascorbic acid, citric acid, or mixtures thereof.

The Examiner states that ascorbic acid and citric acid are well known in the art for addition to food-containing compositions. These compounds are used to stabilize the compositions against spoilage. The Examiner states that the skilled person in the art would expect that the addition of these acids to a composition containing sugar cane would be a beneficial modification, and therefore the skilled person in the art would be motivated to add the acids to the sugar cane based on the benefits of these acids.

The applicants do not agree with this position of the Examiner. The applicants admit that ascorbic acid and citric acid are well known in the art for addition to food-containing compositions in order to stabilize the compositions against spoilage. However, the composition of the applicants' invention is not a food composition but a composition for controlling

*Coleoptera* insects in plants. In addition, the insect attracting composition of the instant invention includes fermented sugar cane, which is not usually present in food compositions. The preserving agent is added once the vegetable material has been fermented (i.e., the preserving agent is added not for protecting the sugar cane against spoilage).

The technical fields of insect control compared to foodstuffs is non-analogous. These fields are quite separated from each other. Additionally, the preserving agent is not added for protecting the sugar cane against spoilage. For these reasons, a person of ordinary skill in the art of insect control would not have been motivated to add a preserving agent (e.g., ascorbic acid or citric acid) to the fermented sugar cane included within the insect-attracting composition of the claimed invention.

The applicants' invention overcomes problems with insect-control compositions and methods of the prior art. Known vegetal baits combined with pheromones for the target insects exhibit a short bait life. The bait life of these compositions rarely exceed 15 days and, thereby, require constant replacement of the bait. This maintenance requirement complicates the treatment of the plants and renders the treatment more expensive. The applicants' invention also overcomes the problem of known vegetal baits that exhibit irregular results, i.e., a lack of reproducible results due to the heterogeneity of the vegetal substance in the fermentation.

The solution provided by the claimed invention is based on the use of an insect-attracting composition. The composition of claim 15 is useful for controlling *Coleoptera* insects in plants and provides these unexpected results.

The articles cited by the Examiner do not teach or suggest the use of a preserving agent to stabilize ground and fermented parts obtained from plants of the family *Palmaceae*, sugar cane, banana tree and agaves. The use of a preserving agent substantially increases the bait life for a period of time of at least one month. (See the specification on page 10 at line 8 to page 11 at line 7, particularly, on page 10 at lines 18 through 20 and 27 through 32.) This unexpected result simplifies the implementation of the insect-control method and reduces the cost for implementing such a method. The use of a preserving agent in a homogenized bait, such as the bait of the claimed invention, has intimately mixed components in the same container from which the insect-attracting compounds are evaporated. This homogenized bait renders reproducible results.

Additionally, the presence of component (C), i.e., an organic compound emitted in minor quantities during the fermentation of vegetable parts of the palm tree or related plants, appears to enhance the effect of components (A) and (B). This enhances activity achieves a synergistic effect as demonstrated in Example 1 at Table 1. Effectively, as shown in Table 1, the total capture of insects trapped in all the traps containing the same test substance drastically increases when the insect attracting composition includes the component (C), i.e., compositions identified in Table 1 as (c) and (d)]. In fact:

- (i) in March 1997:
  - the total capture of insects using composition (c) (including components A, B, and C), i.e., 201, is about 2.80 folds of the total capture of insects using composition (a), which includes only component C, or about 1.10 folds of the total capture of insects using composition (b), which includes only components A and C; and
  - the total capture of insects using composition (d), which includes components A, B, and C, i.e., 218, is about 3.03 folds of the total capture of insects using composition (a), which includes only component C, or about 1.20 folds of the total capture of insects using composition (b), which includes only components A and C; and
- (ii) in April 1997:
  - the total capture of insects using composition (c), which includes components A, B, and C, i.e., 405, is about 3.40 folds of the total capture of insects using composition (a), which includes only component C, or about 1.30 folds of the total capture of insects using composition (b), which includes only components A and C; and
  - the total capture of insects using composition (d), which includes components A, B, and C, i.e., 420, is about 3.53 folds of the total capture of insects using composition (a), which includes only component C, or about 1.35 folds of the total capture of insects using composition (b), which includes only components A and C.

These results show not only the efficacy and stability of the insect attracting composition of the claimed invention for, at least one month, but also the synergistic effect achieved by including component (C) into the claimed composition.

The claimed invention provides a new, non-obvious approach to insect control, which renders a surprising and unexpected effect. The subject matter of claim 15 was not evident to the skilled artisan in insect control from the art cited by the Examiner. Consequently, claims 15 through 24 are not made obvious by the cited art. This rejection should be withdrawn.

**6. Conclusion**

The application is believed to be in condition for allowance. Favorable consideration is requested.

Respectfully submitted,



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**APPENDIX A**  
**"CLEAN" VERSION OF EACH PARAGRAPH/SECTION/CLAIM**  
**37 C.F.R. § 1.121(b)(ii) AND (c)(i)**

**IN THE ABSTRACT**

Please insert the as the last page of the application the Abstract of the Disclosure attached to this amendment.

**IN THE SPECIFICATION**

Please amend the specification on page 13 at lines 5 through 14 as follows.

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Table 1			
Results for the months of March-April 1997			
Substance tested	Total capture	Daily capture	Total capture
(a)	72	0.6	119
(b)	183	1.5	312
(c)	201	1.7	405
(d)	218	1.8	420
(e)	-	-	3

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